

**School/College/Work Initiative
Regional Mathematics Forum Report**

June 2003

**Partners:
Georgian College
Simcoe County District School Board
Simcoe Muskoka Catholic District School Board
Trillium Lakelands District School Board**

Committee:

Georgian College:

Michelle Rao, Kate Beatty, Carrie Shaw

Simcoe County District School Board:

Carol Deimling, Lisa Abernethy

Simcoe Muskoka Catholic District

School Board:

Jim Hall, Greg Clarke

Trillium Lakelands District School

Board: Sonja Vandermeer

Regional Forum Participants:

Participants from 28 secondary schools and two college campuses were included in the forums. Individuals were math department leads or heads, and mathematics focused faculty. Please see appendix A for the complete list.

Process:

Georgian College and the Simcoe County District School Board, the Simcoe Muskoka Catholic District School Board and Trillium Lakelands District School Board collaborated on two day-long Regional Math Forums in 2003. The first was held May 13 in Barrie for the southern part of the region; the second ran May 14 in Orillia for the northern region. These forums concentrated on forging connections and understanding between mathematics department lead teachers in secondary schools in the three school boards and the Mathematics focused faculty at Georgian College.

Project Outcomes:

Participants:

- a) Communicated on issues of interest and concern to both groups
- b) Shared and reviewed how mathematics curricula align with college courses
- c) Focused on the mathematics pathways leading to college for students and opportunities for specific occupations
- d) Compared assessment and evaluation practices at the secondary school and college levels
- e) Considered the resources currently in use in secondary school and college math classes and their relationship for students
- f) Received an overview of mathematics related programs at Georgian College
- g) Discussed ramifications to the college system of the new math curriculum and its graduates
- h) Proposed a variety of methods to continue discussions between regional mathematics forum participants including a web site, classroom exchanges and an annual face-to-face discussion
- i) Considered actions that participants could take to affect change within their classrooms and within the system

The process of developing the proposal and organizing the forums also improved communication among secondary program staff and college program staff.

Challenges:

- a) Aligning assessment practices and procedures with college practices for assessment and evaluation
- b) Identifying common areas of essential curriculum outcomes in mathematics and the skills necessary for secondary and college programs
- c) Assisting school staff to direct students to appropriate courses and college pathways
- d) Familiarizing participating secondary teachers of mathematics with Georgian's programs, pathways and facilities
- e) Familiarizing all college level instructors with a fuller understanding of secondary school culture and a profile of the secondary school learner
- f) Promoting a love of mathematics in learners at all educational levels

Recommendations:

Participants wanted to:

- a) Meet annually, using the 2004 forum to assess the issues surrounding double cohort graduates and track the success of the two curriculum streams
- b) Consider meeting as a large group
- c) Use the web site to post summary notes, course outlines, share assessments, create a test bank inventory, create a discussion forum and to list names and contacts of participants
- d) Communicate their concerns to the appropriate provincial ministry
- e) Explore professional development opportunities for high school teachers at the college and college faculty making visits to high school math classes
- f) Share with elementary teachers the skills necessary for college
- g) Create a document to share career and college program options for students who enjoy math
- h) Consider a math competition to promote interest

Appendices:

A: Forum Participants

B: Evaluation

Acknowledgements:

The committee would like to thank:

Cheryl Simpson
Vice-President, Academic, Georgian College

Steve Robinson
Manager, Organizational & Staff Development
Georgian College

Gale Manuel
Manager, Student Services
Simcoe County District School Board

The School/College/Work Initiative
Co-Management Team
Peter Askey and Frank Kelly

Georgian College Staff and Faculty

Simcoe County District School Board

Simcoe Muskoka Catholic District School Board

Trillium Lakelands District School Board

APPENDIX A

Regional Forum on Mathematics

May 13, 2003

Barrie Session Attendees

School & Board	Phone Number
Education Centre SCDSB	3-Sep 705-734-6363, ext 282 Now 705-436-4139
Barrie North SCDSB	705-726-6541 ext 355
St Peter's SMCDSB	705-728-9963
St Thomas Aquinas SMCDSB	905-936-4743
Georgian College	705-728-1968, ext 1963
Catholic Education Centre SMCSDB	705-722-3555, ext 226
Jean Vanier SMCDSB	705-445-2045
Georgian College	705-728-1968, ext 1614
Georgian College	705-722-8162
St Joesph's SMCDSB	705-728-3120
Barrie Central Collegiate SCDSB	705-726-1846
Catholic Administration SMCDSB	705-722-3555, ext 302
St Joseph's HS SMCDSB	705-739-0310
Nantyr Shores SCDSB	705-431-5950
Jean Vanier SMCDSB	705-445-2045
Innisdale SS SCDSB	705-726-2552, ext 664
Bear Creek SS SCDSB	705-725-7712, ext 698
Banting SCDSB	705-435-6288
Georgian College	705-728-1968, ext 1657
St Joan of Arc SMCDSB	705-728-6572

Stayner Collegiate SCDSB	705-428-2639
Barrie Learning Centre SCDSB	705-725-8360, ext 325
St Peter's SMCDSB	705-734-0168
Eastview SS SCDSB	705-728-1321, ext 431
Georgian College	705-728-1968, ext 5253
Elmvale DHS SCDSB	705-322-2201
Bradford DHS SCDSB	905-775-2262
Collingwood CI SCDSB	705-445-3161, ext 227
Holy Trinity SMCDSB	905-775-4841, ext 350

Regional Forum on Mathematics
May 14, 2003
Orillia Session Attendees

School and Board	Phone Number
Education Centre SCDSB	(705) 734-6363 ext. 282
St. Theresa's H.S. SMCDSB	(705) 527-5541
Catholic Education Centre SMCDSB	(705) 722-3555 ext. 226
Patrick Fogarty SMCDSB	(705) 325-9372
Georgian College	(705) 722-8162
Haliburton Highland S.S. Trillium Lakelands D.S.B.	(705) 457-9286
ODCVI SCDSB	(705) 326-3172
St. Dominic (Bracebridge) SMCDSB	(705) 646-8772 ext. 518
Patrick Fogarty SMCDSB	(705) 325-9372
Midland S.S. SCDSB	(705) 526-7817
Twin Lakes S.S. SCDSB	(705) 325-1318
Gravenhurst H.S. Trillium Lakelands D.S.B.	(705) 687-2283
Georgian College	(705) 728-1968 ext. 1499
St. Theresa's H.S. SMCDSB	(705) 526-1311 ext. 543
Orillia Park St. C.I. SCDSB	(705) 326-7386
Penetanguishene S.S. SCDSB	(705) 549-7446
Georgian College	(705) 728-1968
Bracebridge S.S. TLDSB	(705) 645-4496
Huntsville H.S. Trillium Lakelands D.S.B.	(705) 789-5594
Georgian College	(705) 728-1968 ext. 1498
Georgian College	(705) 728-1951 ext. 5253

APPENDIX B—EVALUATION

May 13, 2003 (24 responses)

	Excellent	Very Useful	Somewhat Useful	Not Very Useful
Format of day	11	13		
Session A: Pathways	8	15	1	
Session B: Resource Sharing	4	15	4	1
Session C: Assessment & Evaluation	6	11	7	
Overall evaluation of the day	7	17		

How will your participation in this forum benefit students?

- Students will benefit from the fact that relevant information will be shared with the rest of the department. This will be especially beneficial when focusing on aspects of our high school program that could be modified to meet the mathematical needs expressed by our college counterparts
- I am better aware of the skill-set of the high school students coming to Georgian. High school contacts (teachers) – knowledge of specifics i.e. students, courses, etc.
- Pathway awareness, college realities
- It will allow my students to better prepare for college. It should make them more aware of some of the standards they will need to meet. It will be good to let them know we have met with many college teachers directly
- Better idea of what the college experience will be like for individuals. Perhaps some changes may occur as a result of discussions coming from the group
- Teaching college bound students in a manner that will better prepare them for college – from a better understanding of the needs and the environment of college math classes
- As a college math instructor I will understand what the high school math student arrives with
- I believe I have a better idea of the topics that need focus in my class. Also my evaluation styles in the senior classes will change to match the evaluation at college
- Good idea on where students are heading – how they will be evaluated, what they should expect. I can pass this info on to them
- Getting a better sense of what is expected by college math teachers will be able to prepare/warn/inform students about different forms of evaluation and other changes to expect
- Gives me a better idea of what my students need for college success and help me direct them to MAP vs MCT
- I will focus courses to better prepare them for college. I will attempt to stress importance of MCT to try to offer it
- Clarifies college program requirements. Better counseling for college bound students
- Better understanding of expectations in college which I can pass on to students
- Secondary students will be better informed of what to expect in their college life and what the college will expect of them
- I can impart some knowledge about the expectations colleges have for them. I can better prepare them based on what skills/knowledge they will most need to have to succeed. I now have some contacts at the college level (and other schools) to help answer inquiries
- Students will see more work on the skills that college level classes need
- I can better answer their questions as to evaluation and what they can expect at the college level in terms of assessment. It was revealing to hear how students at the college level are evaluated in the area of mathematics
- I will inform them of the prerequisites needed for some of the courses, inform them of the types of evaluation, how courses are organized and run

- It has provided me with a better understanding of what students need to know to be prepared for college. Given me a better idea of the assessment techniques used in college. Let me know what technology will be used in college
- I have a better understanding of what Georgian expects and can pass this on
- Allows me to discuss how they will be treated and evaluated in college compared to what we are doing in high school
- Bring accurate knowledge that is current about experiences at Georgian and possibly other colleges
- I will be able to pass on expectations, methods and approaches that college math students will be exposed to

As a result of today's sessions, how will your own teaching change?

- It can't change too much but it can be tweaked especially in the area involving developing stronger basic math skills
- Probably not very much
- Senior courses need to mimic those at college/university with reference to evaluation methods/frequency
- It will allow me to give a broader perspective to college bound or even any post-secondary bound students. It has raised my awareness on many issues regarding evaluation, skill requirements and general college policies
- I may focus more on skills that seem to need more development, think about assessment for MCT4C and also 4U courses to begin heading toward what students will see at post secondary, and think about calculator use – use Excel more when lab is available in MAP4C
- One particular aspect that I will attempt to change is to decrease the frequency of grand 12 college tests – to help prepare them for the pace and testing of their college courses. I will stress the need to be prepared for a course that is paced quickly and is predominantly assessed by tests
- No real change just a better understanding
- Evaluation and approach to basic ideas. Focus on skills and using them to solve problems
- Assessment practices to model that at the college more so. Emphasis on knowledge and formula manipulation. Continue with application questions and problem solving for preparation for college
- Less technology more basic skills. Try harder to get the students into the correct course MCT vs MAP and my focus on materials in these classes. My emphasis will change
- Less technology focus – more basics. Put trig in finance course. Stress on \$20 calculator use not graphing calculator
- Not much – except I will probably pay even less attention to formative assessment strategies in OSS
- Alter deadlines (lates) and rules (learned the policies). Spend more time with my 9's doing Mental Math and other calculator use (less use)
- I suspect my teaching styles will remain mainly the same
- Somewhat change the focus of the course re: weight of topics. More supplementary work on basic math skills
- Lots of ideas will help me alter the makeup of classes at different grade levels. Should provide lots of discussion at next math department meeting
- I'm not sure it will change much. Many of the teaching/masking/assessment issues discussed today are relevant to my own experiences, and it was important to hear that other teachers handle or attempt to handle issues in similar ways to my own
- Try to stress the need for basic skills as well as stress more problem solving with manipulation of variables. Try to explain the importance of understanding basics so students can be better prepared to do more problem solving and application type questions
- Focus more on different forms of technology in my classes (more Excel) less graphing calculator
- Slightly as I teach (at present) on grade 11 & 12 students & try to get them to take responsibility for themselves

- I will try to look more towards problem solving and application with my college bound grade twelves to help prepare them
- Through networking with others', gained practical ideas for certain courses, related to preparation for post-secondary, link concepts and assessment formats to courses at Georgian College
- Some topics we now do will need to be re-assessed. Continue the need for BASIC math skills development. I feel pleased that my views on evaluation and graphing calculators are correct in terms of what is needed by my students going to college

What follow up would you like to see from this session?

- Changes made to present high school evaluation & assessment guidelines
- Continued sessions yearly
- Ministry's must coordinate high school and college curriculums – Provincial exams actually worth some %
- I would like to see a day during the regular school year where I could visit the college classes and participate in the classes. I would like to get together with this group one year from now as well to see if we have used ideas
- Exchange of ideas with college & secondary teachers via internet, an annual meeting – particularly at the end of next year to see how our new grads did
- I would like to have a tour of the facilities and to sit in on some classes. I would like to see some college teachers come to the high school to gain a better understanding of where their 1st year students are coming from
- I would be most interested in seeing the computer software that high schools are using
- More PA set aside in high schools to meet with the colleges many more times
- More info on what the college views as to review of high school math – text book table of contents, entrance exams, course info on the pre-tech college course, impact on elementary schools
- Continued dialogue/communication – perhaps a website to use as a forum for exchanging information/ideas
- All the same people here for the same session and see how things have changed. Would like to receive regular emails about how students are doing, how they can be better prepared, etc.
- Next year see the impact new curriculum has made on the college. Pressure from colleges on Ministry to clean up items like deadlines, technology (fathom)
- Certainly some major differences in MSC of Technology & assessment. Closer association between teachers
- Communication with the elementary schools on what is needed from them with regards to development of the students. Bottom line the courses and assessment can change but our real concern is with the work ethic of the student and the basic math skills which appear to be missed
- Have the same participants come back a year from now and ask them if today made a positive difference in their presentation of math
- I would like a list of the participants with e-mail addresses for future contact. Colleges examine their courses in light of the changes at the secondary level. Feedback to the initiative getting back to the Ministry of Ed. (particularly grade 11 course pathways)
- College exemplars – for next generation of students (new curriculum). Elementary teacher involvement? Future sessions for others
- I thought the “test bank” that Andy discussed would be extremely useful at the Board level. It would be great if both local Boards could provide the time for teachers to share problems and develop a test bank for each math course at the secondary level
- Meeting next year to see how double cohort is doing. More copies of course outlines for first year math courses. More sample copies of types of questions
- Emails of notes, email addresses, etc.
- Copies of notes/suggestions etc. sent by email
- I would like to spend time in a college class to observe how the day goes here

- Website posting materials from today, comments from evaluation forms, chat board to continue dialogue, email connections to all participants subsequent meeting if \$ permits
- Meeting with the college people after they have been exposed to the students coming out of the “new” system next year could be interesting

May 14, 2003 (13 responses)

	Excellent	Very Useful	Somewhat Useful	Not Very Useful
Format of day	6	7		
Session A: Pathways	3	6	3	1
Session B: Resource Sharing	6	4	3	
Session C: Assessment & Evaluation	4	7	2	
Overall evaluation of the day	5	8		

How will your participation in this forum benefit students?

- It has given me a more focused direction in terms of curriculum delivery and curriculum format (i.e. test questions, etc.), therefore I hope to better prepare my students for their post-secondary experiences
- Knowledge of expectations (entry) at the college level – can inform students of this. Better understanding of way college courses run with regard to evaluation, set-up, text books, etc. – can pass this info on
- I’ll be able to report some accurate expectations of college students to my kids... help to illustrate where they are headed. Focus on specific skills
- A better understanding of what colleges expect. A collection of resources, ideas. A chance to talk with other teachers
- Students will know after a debriefing that I speak from knowledge. Need the marks 70% overall. They will understand the push to multi-step problem solving
- I am constantly asked by students about – will I use this in college? What do colleges expect? What kind of math is done at college? Etc. I think I will be better able to handle these questions after attending today’s sessions
- I will be able to tell students about what the colleges expect in terms of math background. I will let them know that “tests” are important at the college level so they / we can work on test taking skills
- If I am teaching grade 12 college bound math, I can focus and narrow down a bit what is important for some of the programs at college
- College level math courses should be offered both as Apprenticeship and tech levels MAP4C and MTC4C. We only offer MAP4C. Focus on BASICS!!!
- I now have a better understanding of math concepts presented at the college level, and paths necessary to get to various programs
- I have more knowledge of the expectations for students at college. It was an excellent idea to share ideas about text books
- Much more precise understanding of curriculum content, materials, technology & overall expectations, with regards to senior technical mathematics at the college level. Course selection (MAP4C / MCT4C)
- I will explore Excel. Show them how to do 2 equations with 2 unknowns on calculator. Show students an actual pre-test for math at college

As a result of today’s sessions, how will your own teaching change?

- I feel more confident in terms of how this (i.e. gr. 11 & 12 curriculum) material relates to a college course
- Focus more on basic skills. Try and incorporate technologies they will see at college – Excel (spreadsheet), Basic Calculator Function
- More basics where possible. Proper appropriate use of technology
- Critical questions about what is on a test – what should be on a test to help prepare students for college
- Emphasize independent learning skills – attendance, punctuality, extra help. Don't sweat the technology so much
- I will pay attention to basic numeracy skills – correct use of a calculator – promotion of independent problem solving skills and on ways that will aid their success in college based on today's sessions
- I may try to fit in review and extra practice of basic skills and discourage the use of a calculator. I will review prerequisites needed for specific college courses
- Not much. I tend to stick with unit tests and exam for evaluation as does Georgian. I might use graphing calculators less
- Counsel students to take grade 11 college level, that leads to MAP4C. More use of computers, with Excel, Geometers, sketchpad
- I will continue to emphasize problem-solving and will focus on reviewing basic skills frequently
- I am more comfortable stressing problem solving skills in high school
- Even more convinced of using curriculum related texts as a resource not a bible. Greater emphasis on developing and expanding numeracy and algebra
- Make sure I am covering what is necessary to help students in their college courses

What follow up would you like to see from this session?

- 1) I would like to see some sample college test/exams/lesson plans to better prepare my students 2) the other issue is that I hope courses will be ordered properly & written to fit college expectations 3) I would also like to meet again or have a college teacher visit 4) I would also like to visit the various classes of different departments
- Continued communication between colleges and high schools as time goes on and as the new curriculum unfolds
- Another chance for dialogue
- See guidance about programs. Share with whole department – don't sweat Gr. 12 C course – all on marks. Debrief with Gr. 12 students
- This is a great beginning that I hope turns into an on-going forum for communication with our neighbouring colleges. Time and money are always issues but I would like to visit some of the faculties that my students will be attending. I.e. Tool & Die, Engineering
- I would like to have a college instructor come speak to our students with regards to math expectations. Could we as high school teachers spend an afternoon at the college sitting in on some math classes?
- I would like a session like this with my elementary feeder schools and a university. Georgian staff members were part of this workshop. The Tech. department was well represented, but Health Services, Apprenticeship and Business were not. It would have been nice to have experts in that dept.
- Ministry states that math is so important. Make high schools provide MAP4C AND MTC4C (make these courses mandatory in high schools)
- More resource sharing, meeting both with high school and colleges more often – yearly so both can discuss areas of need
- I would be interested in knowing how well prepared the new double cohort students are in comparison to the old curriculum
- Yearly sessions to meet colleagues from other schools to share content/materials/experiences
- Continue to keep in touch with each other (maybe once a year) college and high schools should share the same goals

